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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828.766	04/20/2004	Takakazu Fukano	448563/0249 L.R/DLS	5219

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EXAMINER

LEBRON, JANNELLE M

ART UNIT PAPER NUMBER

2861

DATE MAILED: 08/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/828,766	<b>Applicant(s)</b> FUKANO ET AL.	
	<b>Examiner</b> Jannelle M. Lebron	<b>Art Unit</b> 2861	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,4 and 12-15 is/are allowed.
- 6) ☒ Claim(s) 1,5-8,10,11 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 2 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 6, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Walker et al. (2001/0019343).

3. Walker et al. discloses an information communicating member (16 in figure 1 and 8) to be disposed on a liquid container for supplying a liquid to a liquid ejecting head of a liquid ejection apparatus, the information communicating member

- Claim 1:

comprising:

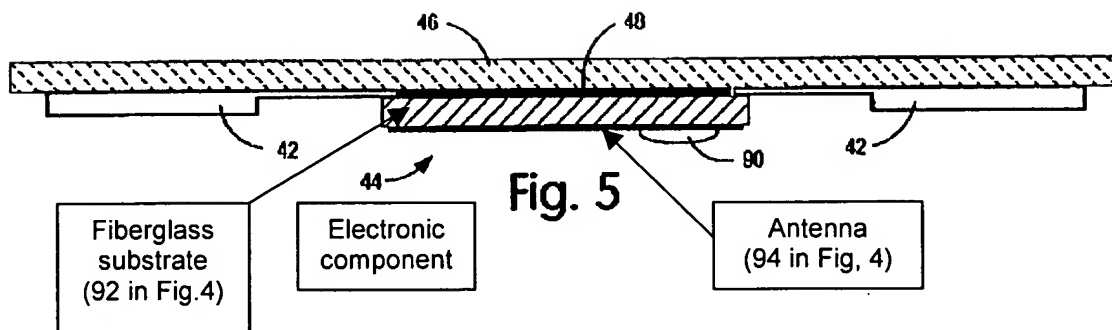
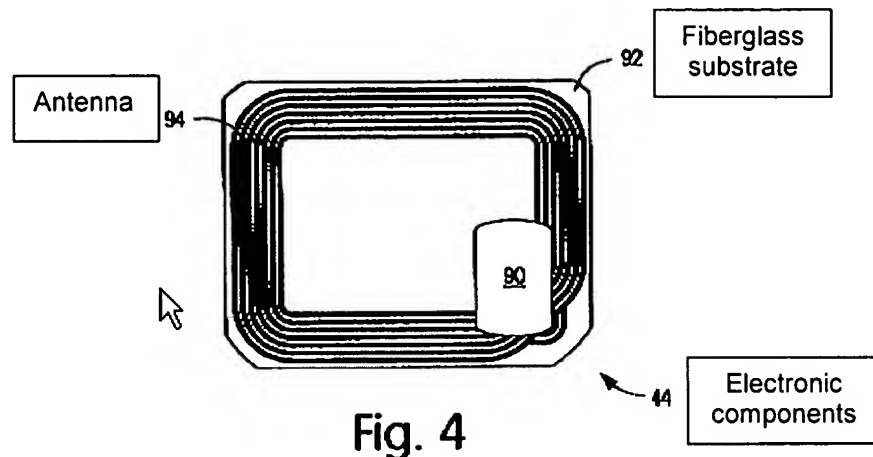
an information storing portion (68 in figure 8) storing therein liquid information with regard to the liquid contained in the liquid container (paragraph 0043);

an antenna portion (94 in figure 4) for communicating the liquid information stored in the information storing portion between the information communicating member and the liquid ejection apparatus in a wireless manner (paragraph 0021); and

a base member (fiberglass substrate 92; see diagram below) having a surface on which both the information storing portion and the antenna portion are directly disposed,

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the base member having an electric insulating property and an ultraviolet ray shielding property (paragraph 0045; the fiberglass substrate and the epoxy provide a shield for the storing and antenna portions.)



4. Walker et al. discloses a liquid container (24 in figure 6) for supplying a liquid to a liquid ejecting head of a liquid ejection apparatus, the liquid container comprising:

- Claim 5:

an information communicating member (16 in figure 1) disposed on the liquid container, the information communicating member including:

an information storing portion (68 in figure 8) storing therein liquid information with regard to the liquid contained in the liquid container (paragraph 0043);

an antenna portion (94 in figure 4) for communicating the liquid information stored in the information storing portion between the information communicating member and the liquid ejection apparatus in a wireless manner (paragraph 0021); and

a base member (fiberglass substrate 92; see diagram above regarding claim 1) having a surface on which both the information storing portion and the antenna portion are directly disposed, the base member having an electric insulating property and an ultraviolet ray shielding property (paragraph 0045; the fiberglass substrate and the epoxy provide a shield for the storing and antenna portions.)

5. Walker et al. discloses a liquid ejection apparatus comprising:

- Claim 6:

a liquid ejecting head (paragraph 0040);

a first antenna portion (82 in figure 8);

a liquid container detachably mounted on the liquid ejecting apparatus for supplying a liquid to the liquid ejecting head (paragraph 0040); and

an information communicating member (16 in figure 1) disposed on the liquid container, the information communicating member including:

an information storing portion (68 in figure 8) storing therein liquid information with regard to the liquid contained in the liquid container (paragraph 0043);

a second antenna portion (76 in figure 8) for communicating the liquid information stored in the information storing portion between the information communicating

member and the liquid ejection apparatus in a wireless manner using the first antenna portion (paragraph 0054; as seen in figure 8)); and

a base member (fiberglass substrate 92, see diagram above regarding claim 1) on which the information storing portion and the antenna portion are directly disposed, the base member having an electric insulating property and an ultraviolet ray shielding property paragraph 0045; the fiberglass substrate and the epoxy provide a shield for the storing and antenna portions.)

6. Walker et al. discloses an information communicating member

- Claim 16:

comprising:

a memory device (68 in figure 8);

an antenna connected to the memory device (82 in figure 8); and

a base member (fiberglass substrate 92, see diagram above regarding claim 1)

having a surface on which both the memory device and the antenna are directly disposed, the base member having an electric insulating property and an ultraviolet ray shielding property (paragraph 0045; the fiberglass substrate and the epoxy provide a shield for the storing and antenna portions.)

- Claim 17:

wherein the memory device includes a memory and a controller (78 in figure 8; paragraph 0054).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7, 8, 10, 11 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al (US 2001/0019343) in view of Walker (US 2003/0128245).

9. Walker et al. discloses an information communicating member to be disposed on a liquid container for supplying a liquid to a liquid ejecting head of a liquid ejecting apparatus, the information communicating member

- Claim 7:

comprising:

an information storing portion (68 in figure 8) and storing therein liquid information with regard to the liquid contained in the liquid container (paragraph 0043);

an antenna portion (94 in figure 4) for communicating the liquid information stored in the information storing portion between the information communicating member and the liquid ejecting apparatus a wireless manner (paragraph 0021);

a plurality of sensor terminal portions (42 in figure 5) for electrically connecting the information storing portion to a sensor for detecting a remaining amount of the liquid in the liquid container (paragraph 0046);

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a base member (fiberglass substrate 92, see diagram above regarding claim 1) having a surface on which the information storing portion, the antenna portion and the sensor terminal portions are directly disposed; and

a plurality of connecting wire portions electrically connecting the sensor terminal portions and the information storing portion (paragraph 0043).

Thus Walker et al. teaches the claimed limitations except “the connecting wire portions being at least in part aligned in parallel with each other on the base member.”

Walker (US 2003/0128245) discloses sensor terminals (42 in figure 3) connected to the link electronics via conductors (43 in figure 3) aligned in part in parallel with each other (as seen in figure 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to use connecting wires aligned in part in parallel to connect electrically the sensor terminals to the memory. One would have been motivated to modify Walker et al. to electrically connect the sensor pads to the memory device thus providing it information about the ink inside the cartridge and improving printing quality.

- Claim 8:

wherein the connecting wire portions electrically connect the sensor terminal portions to two terminals of the information storing portion, respectively, and the information communicating member transmits and receives the liquid information to and from the liquid ejecting apparatus and receives a power from the liquid ejecting apparatus (the invention teaches two sensor terminals (figures 5 and 6) and the memory having two terminals (figure 8)).



10. Walker et al. discloses a liquid container for supplying a liquid to a liquid ejecting head of a liquid ejecting apparatus (paragraph 0040), the liquid container

- Claim 10:

comprising:

a sensor for detecting a remaining amount of the liquid contained in the liquid container in the liquid container (paragraph 0046); and

an information communicating member (16 in figures 1 and 8) disposed on the liquid container, the information communicating member including:

an information storing portion (68 in figure 8) and storing therein liquid information with regard to the liquid contained in the liquid container (paragraph 0043);

an antenna portion (94 in figure 4) for communicating the liquid information stored in the information storing portion between the information communicating member and the liquid ejecting apparatus in wireless manner (paragraph 0021);

a plurality of sensor terminal portions (42 in figure 5) for electrically connecting the information storing portion to the sensor (paragraph 0046);

a base member (fiberglass substrate 92, see diagram above regarding claim 1) having a surface on which each of the information storing portion, the antenna portion and the sensor terminal portions are directly disposed; and

a plurality of connecting wire portions electrically connecting the sensor terminal portions and the information storing portion (paragraph 0043).

Thus Walker et al. teaches the claimed limitations except "the connecting wire portions being at least in part aligned in parallel with each other on the base member."

Walker (US 2003/0128245) discloses sensor terminals (42 in figure 3) connected to the link electronics via conductors (43 in figure 3) aligned in part in parallel with each other (as seen in figure 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to use connecting wires aligned in part in parallel to join electrically the sensor terminals and the memory. One would have been motivated to electrically connect the sensor pads to the memory device thus providing it information about the ink inside the cartridge and improving printing quality.

11. Walker et al. discloses a liquid ejecting apparatus

- Claim 11:

- a liquid ejecting head (paragraph 0040);

- a first antenna portion (82 in figure 8);

- a liquid container detachably mounted on the liquid ejecting apparatus for supplying a liquid to the liquid ejecting head (paragraph 0040);

- a sensor, disposed on the liquid container, for detecting a remaining amount of the liquid contained in the liquid container (paragraph 0046); and

- an information communicating member (16 in figure 1) disposed on the liquid container, the information communicating member including:

- an information storing portion (68 in figure 8) storing therein liquid information with regard to the liquid contained in the liquid container (paragraph 0043);

- a second antenna portion (76 in figure 8) for communicating the liquid information stored in the information storing portion between the information communicating

member and the liquid ejection apparatus in a wireless manner using the first antenna portion (paragraph 0054; as seen in figure 8));

a plurality of sensor terminal portions (42 in figure 5) for electrically connecting the information storing portion to the sensor (paragraph 0046);

a base member (fiberglass substrate 92, see diagram above regarding claim 1) having a surface on which each of the information storing portion, the antenna portion and the sensor terminal portions are directly disposed; and

a plurality of connecting wire portions electrically connecting the sensor terminal portions and the information storing portion (paragraph 0043).

Thus Walker et al. teaches the claimed limitations except “the connecting wire portions being at least in part aligned in parallel with each other on the base member.”

Walker (US 2003/0128245) discloses sensor terminals (42 in figure 3) connected to the link electronics via conductors (43 in figure 3) aligned in part in parallel with each other (as seen in figure 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to use connecting wires aligned in part in parallel to join electrically the sensor terminals and the memory. One would have been motivated to electrically connect the sensor pads to the memory device thus providing it information about the ink inside the cartridge and improving printing quality.

12. Walker et al. discloses an information communicating member

- Claim 18:

comprising:

a memory device (68 in figure 8);

an antenna connected to memory device (82 in figure 8);  
a plurality of terminal portions (42 in figure 5) for electrical connection to an external device paragraph 0046);  
a base member (fiberglass substrate 92, see diagram above regarding claim 1) having a surface on which each of the memory device, the antenna and the terminal portions are directly disposed; and  
a plurality of connecting wire portions electrically connecting the sensor terminal portions and the information storing portion (paragraph 0043).

Thus Walker et al. teaches the claimed limitations except “the connecting wire portions being at least in part aligned in parallel with each other on the base member.”

Walker (US 2003/0128245) discloses sensor terminals (42 in figure 3) connected to the link electronics via conductors (43 in figure 3) aligned in part in parallel with each other (as seen in figure 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to use connecting wires aligned in part in parallel to join electrically the sensor terminals and the memory. One would have been motivated to electrically connect the sensor pads to the memory device thus providing it information about the ink inside the cartridge and improving printing quality.

- Claim 19:

wherein the memory device includes a memory and a controller (78 in figure 8; paragraph 0054).

***Allowable Subject Matter***

13. Claims 3, 4 and 12-15 are allowed.

14. Claims 2 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter:

- Claim 2:

Prior art does not disclose or suggest either alone or combined the claimed "an exposed portion of the adhering layer being the surface on which the information storing portion and the antenna portion are directly disposed."

- Claim 3:

Prior art does not disclose or suggest either alone or combined the claimed "a jumper connecting line for electrically connecting the information storing portion to the antenna portion, the jumper connecting line being disposed within the adhering layer."

- Claim 4:

Prior art does not disclose or suggest either alone or combined the claimed "peelable sheet having electric insulating property and ultra violet ray shielding property."

- Claim 9:

Prior art does not disclose or suggest either alone or combined the claimed “an exposed portion of the adhering layer being the surface on which the information storing portion, the antenna portion, the sensor terminal portions and the connecting wire portions are directly disposed.”

- Claim 12:

Prior art does not disclose or suggest either alone or combined the claimed “a flexible base substrate having a first surface on which a memory device and an antenna connected the memory device are disposed, and an opposite second surface;

a flexible first protective substrate laminated on the second surface of the flexible base substrate;

a flexible second protective substrate having a first surface and an opposite second surface, wherein:

the first surface of the flexible second protective substrate has an electrically insulating property and is laminated on the first surface of the flexible base substrate so that the memory and the antenna are covered between the flexible base substrate and the flexible second protective substrate; and

the second surface of the flexible second protective substrate has an adhesive property.”

- Claim 13-15:

These claims are allowable subject matter due to their dependency on base claim 12.

### ***Response to Arguments***

Applicant's arguments filed 06/19/2006 have been fully considered but they are not persuasive.

Regarding applicant's argument that the Walker reference does not disclose how the integrated circuit 90 and printed circuit antenna 94 are arranged relative to surface of the substrate 92, please note that the unnumbered structure in fig. 5 refers to the fiberglass substrate 92 in fig. 4. The cross-sectional view in fig. 5 also shows the position of the antenna 94 relative to the surface of the substrate. Please refer to the diagram above regarding claim 1 to clear any misunderstanding.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

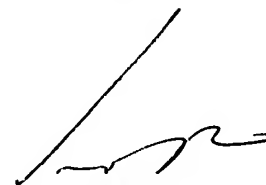
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jannelle M. Lebron whose telephone number is (571) 272-2729. The examiner can normally be reached on Monday thru Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**Jannelle M. Lebron**  
**AU 2861**  
**08/25/2006**



**Vip Patel**  
**Supervisory Examiner**  
**AU 2861**